

## REMARKS

No claims have been amended by this Response. Claims 1-18 remain in the application. Applicant respectfully requests further examination in view of the following.

### ***Rejection of Claims 1, 2, 9, 10 and 15 Under 35 U.S.C. § 102(e) – Baum***

Claims 1, 2, 9, 10 and 15 stand rejected under 35 U.S.C. § 102(e) as anticipated by *Baum* (U.S. Patent Application Publication No. 2003/0200311 to Robert Baum). Applicant respectfully traverses this rejection for at least the following reasons.

*Baum* does not disclose or suggest providing quality of service (QoS) statistics or other QoS information. It is well established in the law that for a prior art reference to anticipate a claim, the reference must disclose each and every feature recited in the claim. (See, e.g., MPEP § 2131.) Although it is recognized that terms in a claim are afforded their broadest reasonable interpretation during examination, *Baum* does not disclose collecting QoS information even within the broadest reasonable interpretation of “quality of service information.” Therefore, *Baum* cannot anticipate these claims regardless of what else *Baum* may or may not disclose.

In response to Applicant’s previous arguments, the Examiner states that “we can conclude that the geographic location [of the user] is the quality of service information.” Applicants respectfully disagrees that geographic location is within the broadest reasonable meaning of “quality of service information.” The Examiner continues by stating that Applicant’s specification does not provide a definition. Applicant respectfully disagrees. Not only is the meaning of the term very well understood in the art, but Applicant’s specification further explains what is meant by the term.

Persons skilled in the art to which the invention relates understand that “quality of service” (QoS) essentially refers to some measure of how well the participants in a telephone conversation can hear each other. As explained in Applicant’s specification, there is a need in the art to measure QoS in voice-over-Internet Protocol (VoIP) telephone conversations. For example, a VoIP telephone service subscriber may contact his or her service provider to complain that he or she has been unable to clearly hear another party in a telephone conversation. In response, the service provider can employ the present invention to troubleshoot the network by identifying the location in the network of the cause of the

problem. The problem may be, for example, that some piece of equipment, e.g., a network router, is undesirably dropping packets, or causing delay or jitter. Such problems directly impact quality of service, as the term is understood in the art. The QoS information or statistics to which the specification and claims refer provide a measure or quantification of the extent of such problems.

Numerous sources, such as technical dictionaries and white papers, defining the term “quality of service,” can readily be found. The term is even defined in the International Telecommunications Union (ITU) standard X.902: “A set of quality requirements on the collective behavior of one or more objects.” The ITU-T Recommendation E.800 defines QoS as “the collective effect of service performance which determine the degree of satisfaction of a user of the service.”

Paragraph 0047 of Applicant’s specification further explains that QoS information can be presented to network operators via a graphical user interface in which network nodes are graphically displayed in red or yellow to indicate degraded voice quality at those nodes, while network nodes are displayed in green to indicate good voice quality at those nodes. Paragraph 0044 of Applicant’s specification provides some examples of QoS statistics and information, including “[Mean Opinion Score] MOS or information on, for example, packet jitter, packet loss, etc.” As well understood by persons skilled in the art, MOS is a numerical method of expressing the perceived quality of the received voice in a telephone call or similar transmission. It is the numerical expression of where in the spectrum ranging from “good” to “bad” a user would likely categorize the telephone call experience.

Packet loss (dropped packets) can occur if, for example, packets arrive at a router when the router’s buffer is already full. The receiving application may request re-transmission of the lost packets, possibly causing severe delays in the overall transmission and ultimately affecting how good or bad the participants in a VoIP conversation perceive the quality of the experience to be. Packet delay likewise impacts QoS. As well understood in the art, it might take a long time for a packet to reach its destination, because it gets delayed in long queues, or is routed less directly to avoid congestion. In some cases, excessive delay can impact VoIP so severely as to make conversation unintelligible. Jitter refers to packets from a source reaching their destination with different delays. A packet’s delay varies with its position in the queues of the routers along the path between source and destination, and this position can vary unpredictably. Jitter can thus also seriously affect VoIP QoS. Still another

well-known QoS measure or statistic is out-of-order delivery. That is, when a collection of related packets is routed through the network, packets may arrive in a different order than they were sent, due to variations in delays of various paths they took through the network. Rearranging out-of-order packets once they reach their destination takes time and thus can likewise detrimentally affect VoIP QoS.

In contrast to the present invention, *Baum* in no way involves collecting QoS information relating to VoIP telephone calls. Rather, *Baum* is directed to a method and system for “wiretapping” a VoIP telephony system. That is, *Baum* discloses how packets can be identified as belonging to a telephone call for which a wiretap is authorized, and how the packets then can be copied and collected (and ultimately converted to an audio stream) so that law enforcement officials can listen to the wiretapped conversation. *Baum* discloses nothing about collecting QoS information. Indeed, there would be no reason why law enforcement officials would be especially interested in how well the participants in a wiretapped conversation can hear each other. Rather, the sole concern is to collect the packets that constitute the voice information, i.e., the conversation, in a manner analogous to that in which the time-honored methods of wiretapping have involved intercepting and recording telephone conversations carried on analog telephone lines.

As part of the wiretapping process described in *Baum*, information relating to the routing of the packets of which the telephone call consists can be obtained, such as information relating to the physical device that the user (customer) is using to make and receive telephone calls. *Baum* discloses that the information can include the customer name, the edge router through which the packets are routed when a call is placed to or from the customer’s telephone number, the port number on the router, and the physical location of the equipment. The Examiner appears to erroneously believe that some or all of this information falls within the scope of meaning of QoS information. The Examiner specifically mentions “location” and “customer name” as being QoS information. In view of the discussion above of the art-accepted meaning of QoS, it should now be apparent that “location” and “customer name” are in no way considered QoS information. As *Baum* does not disclose this feature that is recited in claims 1, 9 and 15 (and, by dependency, claims 2 and 10 as well), *Baum* cannot anticipate claims 1, 2, 9 and 10. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection of these claims.

***Rejection of Claims 3, 7, 11 and 17 Under 35 U.S.C. § 102(e) or, Alternatively, 35 U.S.C. § 103(a) – Baum***

Claims 3, 7, 11 and 17 stand rejected under 35 U.S.C. § 102(e) as anticipated by *Baum* or, in the alternative, under 35 U.S.C. § 103(a) as obvious in view of *Baum*. Applicant respectfully traverses this rejection for at least the following reasons.

The Examiner acknowledges that *Baum* does not disclose what the Examiner characterizes as “the method of, after receipt of the transmitted identifying information, communicating between the NTC and all of the NAs,” but continues that “it’s obvious to the person of ordinary skill in the art at the time of the invention to communicate with one or more NAs.”

Applicants respectfully point out that the claims at issue recite much more than merely communicating information between the Network Troubleshooting Center (NTC) and the Network Analyzers (NAs). For example, claims 7, 11 and 17 relate to, among all of the NAs that are analyzing data streams to identify one associated with the specified telephone number, one of the NAs being the first to discover such a data stream, and then distributing the information that that first NA discovered to the other NAs that have been searching for such a data stream, to aid those other NAs in similarly locating the data stream and collecting QoS information for it. *Baum* does not disclose or suggest such a feature. Even the Examiner does not directly state that *Baum* discloses or suggests such a feature; rather, the Examiner broadly states that *Baum* discloses “communicating between the NTC and all of the NAs,” apparently overlooking the specific language of the claims in this regard. If the Examiner maintains this rejection, Applicant respectfully requests that the Examiner point out where in *Baum* the feature is disclosed whereby, among all of the NAs analyzing data streams to identify one associated with the specified telephone number, one of the NAs is the first to discover such a data stream, and the identifying information it discovers is then provided to the other NAs.

As this feature is neither disclosed nor suggested in *Baum*, Applicant respectfully requests reconsideration and withdrawal of this rejection of claims 3, 7, 11 and 17.

***Rejection of Claims 4, 5, 6, 8, 12, 13, 14, 16 and 18 Under 35 U.S.C. § 103(a) – Baum and Yang (U.S. Patent Application Publication No. 2003/0072330).***

Claims 4, 5, 6, 8, 12, 13, 14, 16 and 18 stand rejected under 35 U.S.C. § 103(a) as unpatentable over *Baum* in view of *Yang*. Applicant respectfully traverses this rejection for at least the reason that these claims depend from claims that, as discussed above, are patentable over *Baum*, where *Yang* discloses nothing of additional relevance to the claimed invention than that Session Initiation Protocol (SIP) is used in telephone call signaling. Neither *Baum* nor *Yang* teaches or suggests anything relating to collecting QoS information for a VoIP telephone call. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection of these claims.

### **CONCLUSION**

For at least the foregoing reasons, Applicant respectfully requests that all outstanding rejections be withdrawn and that all pending claims of this application be allowed to issue. If the Examiner has any comments regarding Applicant's response or intends to dispose of this matter in a manner other than a notice of allowance, Applicant requests that the Examiner telephone Applicant's undersigned attorney.

Respectfully submitted,

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